Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

NATIONAL GUIDELINE CLEARINGHOUSE

General

Guideline Title

Non-small cell lung cancer stage II.

Bibliographic Source(s)

Alberta Provincial Thoracic Tumour Team. Non-small cell lung cancer stage II. Edmonton (Alberta): Alberta Health Services, Cancer Care; 2011 Jun. 11 p. (Clinical practice guideline; no. LU-002). [35 references]

Guideline Status

This is the current release of the guideline.

Recommendations

Major Recommendations

1. Whenever possible, patients should be considered for eligibility in ongoing clinical trials.
2. Surgical resection is the treatment with the best potential for cure for all patients with clinically operable non-small cell lung cancer (NSCLC).

Surgery

3. Surgical resection is recommended for patients with clinical stage II NSCLC and no medical contraindications to operative intervention.
4. A lobectomy or greater lung resection is preferred over a sublobar resection for patients with stage II NSCLC who are medically fit for surgery.
5. Intraoperative systematic mediastinal lymph node sampling or dissection should be performed for accurate pathologic staging of patients undergoing resection for stage II NSCLC.
6. For patients with stage II NSCLC who have an anatomically appropriate (central) tumour, a sleeve lobectomy is an acceptable alternative to pneumonectomy, and may conserve lung function.
7. For medically operable patients with T3 NSCLC with chest wall involvement, complete resection of the tumour should be the aim by either extrapleural or en bloc chest wall resection.
8. Use of video-assisted thoracic surgery (VATS) by experienced surgeons is an acceptable alternative to open thoracotomy for patients with stage II NSCLC who are appropriate candidates for either lobectomy or segmentectomy.

Adjuvant Chemotherapy

9. Post-operative adjuvant platinum-based chemotherapy is recommended for patients with completely resected stage II NSCLC.

- Cisplatin-based treatment is preferred, although a carboplatin-based regimen can be used as an alternative if there is a contraindication to cisplatin.
- Chemotherapy should start 6-8 weeks post surgery ideally, but certainly before 12 weeks.

Radiotherapy

10. Patients with inoperable stage II NSCLC should be assessed for the appropriateness of treatment with radical radiotherapy.
11. Patients with stage II NSCLC who are medically inoperable but suitable for radical radiotherapy should be offered fractionated radiotherapy at doses ranging from 55 greys (Gy)/20 fractions to 66 Gy/33 fractions.
12. Patients with stage II NSCLC who are medically inoperable and not suitable for radical radiotherapy may benefit from palliative radiation.
13. Patients with stage II NSCLC should be considered for inclusion in relevant clinical trials, including trials of stereotactic body radiation therapy and hypo-fractionated 3-D conformal radiation therapy.

Positive Margins After Surgery

14. Re-resection and/or radiotherapy should be considered for patients with positive margins in resected stage II NSCLC.

Follow-up and Surveillance

15. Prolonged follow-up is recommended for patients with stage II NSCLC after treatment with curative intent. Surveillance should include a physical examination and chest x-ray every three months for the first year post-treatment, then every six months for the second year post-treatment, then annually up to the fifth year post-treatment.
16. Each follow-up visit should also include an assessment of the patient's smoking status, as well as counseling and referral to smoking cessation programs.

Clinical Algorithm(s)

A treatment algorithm is provided in the original guideline document.

Scope

Disease/Condition(s)

Stage II non-small cell lung cancer (NSCLC)

Guideline Category

Management

Treatment

Clinical Specialty

Oncology

Pathology

Pulmonary Medicine

Radiation Oncology

Radiology

Surgery

Thoracic Surgery

Intended Users

Advanced Practice Nurses

Physician Assistants

Physicians

Guideline Objective(s)

To provide consensus-based guidelines on treatment and management of stage II non-small cell lung cancer

Target Population

Adult patients over the age of 18 years with stage II non-small cell lung cancer

Interventions and Practices Considered

1. Considering patients for clinical trials
2. Surgical resection
    - Lobectomy or greater lung resection
    - Sublobar resection
    - Intraoperative systematic mediastinal lymph node sampling or dissection for pathologic staging
    - Sleeve lobectomy as an alternative to pneumonectomy
    - Complete tumour resection by either extrapleural or en bloc chest wall resection
    - Video-assisted thoracic surgery (VATS)
3. Adjuvant postoperative chemotherapy in select individuals (cisplatin- or carboplatin-based regimen)
4. Radiotherapy
    - Radical radiotherapy
    - Palliative radiation
    - Stereotactic body radiation therapy
    - Hypo-fractionated 3-D conformal radiation therapy
5. Re-resection and/or radiotherapy for positive margins after surgery
6. Follow-up and surveillance
    - Physical exam
    - Chest x-ray
    - Counseling on smoking cessation

Major Outcomes Considered

- Long-term, 5-year, disease-free, median, and overall survival
- Cure rate
- Preservation of pulmonary function
- Local tumour control rates
- Rate of relapse/recurrence (local, distant, or second primary lung cancers)
- Morbidity
- Death rate
- Rate of complications, toxicity, and adverse effects of treatment
- Sensitivity and specificity of follow-up tests

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Research Questions

Specific research questions to be addressed by the guideline document were formulated by the guideline lead(s) and Knowledge Management (KM) Specialist using the PICO question format (patient or population, intervention, comparisons, outcomes).

Guideline Questions

1. What are the surgical recommendations for patients with stage II non-small cell lung cancer?
2. When is adjuvant treatment recommended in patients with stage II non-small cell lung cancer?
3. What are the recommendations for radiotherapy in patients with stage II non-small cell lung cancer?
4. What is the best way to deal with positive margins in patients with resected stage II non-small cell lung cancer?

Search Strategy

For this guideline update, the working group conducted a search for new or updated practice guidelines published since August 2009 by accessing the websites of the following organizations: Cancer Care Ontario, the British Columbia Cancer Agency, Cancer Care Nova Scotia, the National Comprehensive Cancer Network, the Scottish Intercollegiate Guidelines Network, the National Institute for Health and Clinical Excellence, the American College of Chest Physicians, the British Thoracic Society, the Australian Cancer Network, and the European Society for Medical Oncology.

Medical journal articles were searched using the Medline (1950 to February Week 2, 2011), EMBASE (1980 to February Week 2, 2011), Cochrane Database of Systematic Reviews (1st Quarter, 2011), and PubMed electronic databases; the references and bibliographies of articles identified through these searches were scanned for additional sources. The Medline search terms were: "Lung Neoplasms" [MeSH heading], "Carcinoma, Non-Small Cell Lung" [MeSH heading], "NSCLC" [keyword], and "non-small cell lung cancer" [keyword]. The search was limited to the following publication types: practice guidelines, systematic reviews, meta-analyses, randomized controlled trials, and clinical trials. This search strategy was modified as necessary and repeated in each of the other electronic databases. The working group excluded articles from the final review if they had a non-English abstract, were not available through the library system, or were published prior to August 2009.

The working group reviewed the currency and acceptability of all relevant literature and updated published guidelines for the treatment for stage II non-small cell lung cancer; they then circulated a draft of the updated guideline to the entire provincial tumour team for final feedback and approval.

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Expert Consensus

Rating Scheme for the Strength of the Evidence

Not applicable

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Evidence was selected and reviewed by a working group comprised of members from the Alberta Provincial Thoracic Tumour Team and a Knowledge Management (KM) Specialist from the Guideline Utilization Resource Unit (GURU). A detailed description of the methodology followed during the guideline development process can be found in the Guideline Utilization Resource Unit Handbook (see the "Availability of Companion Documents" field).

Evidence Tables

Evidence tables containing the first author, year of publication, patient group/stage of disease, methodology, and main outcomes of interest are assembled using the studies identified in the literature search. Existing guidelines on the topic are assessed by the KM Specialist using portions of the Appraisal of Guidelines Research and Evaluation (AGREE) II instrument (http://www.agreetrust.org) and those meeting the minimum requirements are included in the evidence document. Due to limited resources, GURU does not regularly employ the use of multiple reviewers to rank the level of evidence; rather, the methodology portion of the evidence table contains the pertinent information required for the reader to judge for himself the quality of the studies.

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Formulating Recommendations

The working group members formulated the guideline recommendations based on the evidence synthesized by the Knowledge Management (KM) Specialist during the planning process, blended with expert clinical interpretation of the evidence. As detailed in the Guideline Utilization Resource Unit Handbook (see the "Availability of Companion Documents" field), the working group members may decide to adopt the recommendations of another institution without any revisions, adapt the recommendations of another institution or institutions to better reflect local practices, or develop their own set of recommendations by adapting some, but not all, recommendations from different guidelines.

The degree to which a recommendation is based on expert opinion of the working group and/or the Provincial Tumour Team members is explicitly stated in the guideline recommendations. Similar to the American Society of Clinical Oncology (ASCO) methodology for formulating guideline recommendations, the Guideline Utilization Resource Unit (GURU) does not use formal rating schemes for describing the strength of the recommendations, but rather describes, in conventional and explicit language, the type and quality of the research and existing guidelines that were taken into consideration when formulating the recommendations.

The working group reviewed the currency and acceptability of all relevant literature and updated published guidelines for the treatment for stage II non-small cell lung cancer.

Rating Scheme for the Strength of the Recommendations

Not applicable

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

Internal Peer Review

Description of Method of Guideline Validation

This guideline was reviewed and endorsed by the Alberta Provincial Thoracic Tumour Team.

When the draft guideline document is completed, revised, and reviewed by the Knowledge Management Specialist and the working group members, it is sent to all members of the Provincial Tumour Team for review and comment. The working group members then make final revisions to the document based on the received feedback, as appropriate. Once the guideline is finalized, it is officially endorsed by the Provincial Tumour Team Lead and the Executive Director of Provincial Tumour Programs.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of evidence supporting the recommendations is not specifically stated.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate management of patients with stage II non-small cell lung cancer

Potential Harms

Complications and toxicity associated with treatment

Qualifying Statements

Qualifying Statements

The recommendations contained in this guideline are a consensus of the Alberta Provincial Thoracic Tumour Team and represent a synthesis of currently accepted approaches to management, derived from a review of relevant scientific literature. Clinicians applying these guidelines should, in consultation with the patient, use independent medical judgment in the context of individual clinical circumstances to direct care.

Implementation of the Guideline

Description of Implementation Strategy

- Present the guideline at the local and provincial tumour team meetings and weekly rounds.
- Post the guideline on the Alberta Health Services Web site.
- Send an electronic notification of the new guideline to all members of Alberta Health Services, Cancer Care.

Implementation Tools

Clinical Algorithm

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

IOM Domain

Effectiveness

Identifying Information and Availability

Bibliographic Source(s)

Alberta Provincial Thoracic Tumour Team. Non-small cell lung cancer stage II. Edmonton (Alberta): Alberta Health Services, Cancer Care; 2011 Jun. 11 p. (Clinical practice guideline; no. LU-002). [35 references]

Adaptation

Not applicable: This guideline was not adapted from another source.

Date Released

2011 Jun

Guideline Developer(s)

CancerControl Alberta - State/Local Government Agency [Non-U.S.]

Source(s) of Funding

Alberta Health Services, Cancer Care

Guideline Committee

Alberta Provincial Thoracic Tumour Team

Composition of Group That Authored the Guideline

Not stated

Financial Disclosures/Conflicts of Interest

Participation of members of the Alberta Provincial Thoracic Tumour Team in the development of this guideline has been voluntary and the authors have not been remunerated for their contributions. There was no direct industry involvement in the development or dissemination of this guideline. Alberta Health Services, Cancer Care recognizes that although industry support of research, education and other areas is necessary in order to advance patient care, such support may lead to potential conflicts of interest. Some members of the Alberta Provincial Thoracic Tumour Team are involved in research funded by industry or have other such potential conflicts of interest. However the developers of this guideline are satisfied it was developed in an unbiased manner.

Guideline Status

This is the current release of the guideline.

Guideline Availability

Electronic copies: Available in Portable Document Format (PDF) from the Alberta Health Services Web site .

Availability of Companion Documents

The following is available:

- Guideline utilization resource unit handbook. Edmonton (Alberta): Alberta Health Services, Cancer Care; 2011 Dec. 5 p. Electronic copies: Available in Portable Document Format (PDF) from the Alberta Health Services Web site .

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI Institute on December 20, 2012. The information was verified by the guideline developer on February 5, 2013.

Copyright Statement

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